What is claimed is:

1. A method of forming a fuel injector seat, the seat having an upstream face, a downstream face, and a passage extending along an axis between the upstream face and the downstream face, the method comprising:

forming within the passage an orifice portion proximate the downstream face and having a first transverse cross-sectional area relative to the axis; (cross section of orifice)

forming within the passage a sealing portion proximate the upstream face and having a second transverse cross-sectional area relative to the axis that decreases at a first rate in a downstream direction from a first area to a second area;

determining a ratio of the first transverse cross-sectional area over the first area; and

forming within the passage a transition portion when the ratio of the first transverse cross-sectional area over the first area exceeds a predetermined value, the transition portion being interposed between the orifice portion and the sealing portion and having a third transverse cross-sectional area relative to the axis that decreases at a second rate in the downstream direction from the second area to the first transverse cross-sectional area.

2. The method according to claim 1, wherein the sealing portion comprises a first conical section defining a first included angle, and the transition portion comprises a second conical section defining a second included angle, and wherein the first included angle is greater than the second included angle.

3. The method according to claim 2, wherein the first included angle is substantially equal to 105°, and the second included angle is substantially equal to 90°.

4. The method according to claim 3, wherein a ratio of the first transverse cross-sectional area over the first area is less than 0.5.

5. The method according to claim 1, wherein the forming of the sealing portion includes grinding with a grinding tool to provide a select finish on the sealing portion.

6. The method according to claim 5, wherein the grinding tool is driven in rotation about an axis of rotation.

7. The method according to claim 6, wherein the transition portion provides a volume receiving an apex of the grinding tool, the apex being proximate to the axis of rotation.

8. The method according to claim 5, wherein the select finish is less than 0.5 micrometers

9. The method according to claim 8, wherein the select finish is approximately 0.4 micrometers.

10. The method according to claim 8, wherein the select finish is approximately 0.2 micrometers.